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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,558	12/22/2003	Haizhang Li	0092665	5064

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EXAMINER

JOHNSON III, HENRY M

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/743,558

Applicant(s)

LI, HAIZHANG

Examiner

Henry M Johnson, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 052704.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10, 11, 14, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,315,773 to Frey et al. in view of U.S. Patent 6,210,401 to Lai. Frey et al. disclose an eye tracking system based on the use of four spots of light focused to be incident on and evenly spaced about either the iris/pupil boundary or the iris/sclera boundary. In addition, man-made boundaries can be used (Col. 3, lines 35-45). The eye tracker may be used to position an ablation laser (Col. 6, lines 60-63). Frey et al. do not teach a suction ring with a boundary. Lai teaches a system for corneal surgery using a ring affixed to an eye by a vacuum, the ring provided with distinct marks on the back of the ring facing the surgical laser system (FIG. 4B). The marks are preferably made to be highly reflective of broadband illuminating light, and the background of the suction ring is preferably flat black to enhance contrast and minimize extraneous reflections (Col. 18, lines 5-35). An illumination source (Fig. 4C) produces reflected radiation from the ring marks that are detected by the eye tracking system (Fig. 4C), which controls the surgical beam to compensate for eye movement (abstract). The method of use disclosed by Frey et al. of projecting the spots on an eye boundary, conveys to an artificial boundary. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the suction ring with boundaries as taught by Lai in the invention of Frey et al. for use with the eye tracker as Frey et al. suggests just such a man-made boundary.

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Regarding claims 5, 6, 16 and 17, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide contrasting boundaries using any number of techniques because Applicant has not disclosed that a specific boundary provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with distinct boundaries on the eye, a ring or the edge of the ring with respect to the eye because all provide the necessary contract for the eye tracker to perform as required.

Claims 8, 9, 12, 13, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,315,773 to Frey et al. in view of U.S. Patent 6,210,401 to Lai. As applied to claims 1 and 10 above and further in view of U.S. Patent 6,497,700 to LaHaye. While Lai discloses that suction rings are well known in the art (Col. 18, line 15), details of the ring are not provided. LaHaye teaches a suction ring for attachment to an eye with a circumferential channel connected to a vacuum line (Fig. 1, # 16), the channel providing the attachment suction to the eye. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the suction attachment as taught by LaHaye in the invention of Frey et al./Lai to provide the attachment suction. Since some vacuum attachment means is clearly required (not just suggested) by Lai, looking to similar suction rings in the art would be obvious.

Regarding claim 8 and 9, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to use any suitable suction configuration because Applicant has not disclosed that a specific suction attachment provides an advantage, is used for a particular purpose, or solves a stated problem. The applicant proposes two viable means. One of ordinary skill in the art, furthermore, would have expected

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Applicant's invention to perform equally well with channels or apertures to provide the vacuum to the eye because either is able to provide the required attachment.

Regarding claims 19 and 20, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide contrasting boundaries using any number of techniques because Applicant has not disclosed that a specific boundary provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with distinct boundaries on the eye, a ring or the edge of the ring with respect to the eye because all provide the necessary contract for the eye tracker to perform as required.

### ***Conclusion***

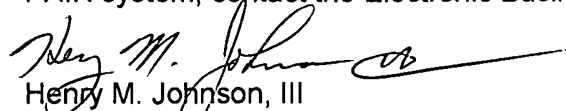
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,586,980 to Kremer and U.S. Patent US 5,108,412 to Krumeich et al. teach vacuum rings for the eye.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 6:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Henry M. Johnson, III  
Primary Examiner  
Art Unit 3739